



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,067	03/12/2004	Tadoru Suga	2718.3074.002	8542

23399 7590 07/15/2004

REISING, ETHINGTON, BARNES, KISSELLE, P.C.
P O BOX 4390
TROY, MI 48099-4390

EXAMINER

TRAN, LOUIS B

ART UNIT	PAPER NUMBER
----------	--------------

3721

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,067	Applicant(s) SUGA, TADORU	
	Examiner Louis B Tran	Art Unit 3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/12/2004</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 4 recites the limitation "the tunnel-shaped air passage" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sonneborn et al. (2,387,812) in view of Mugnai (4,541,224).

Sonneborn teaches a sealing apparatus comprising a pair of upper and lower 5,6 seal blocks located across a transfer track of a tube film W accommodating materials P at equal spaces, for clamping the tube film W between the materials; a pair of seal bars provided inside skirt parts of the seal blocks; a cutting edge 26 attached to one of the seal bars; an edge receiving groove formed in the other of the seal bars, for receiving the cutting edge to cut

Art Unit: 3721

the tube film W; and narrow continuous standing gaps formed in part of a space between opposite edges of the respective skirt parts.

Sonneborn teaches whereby air in a front tube film in a transfer direction of the film is evacuated to the outside of the seal block through the narrow continuous standing gaps and the edge receiving groove, while a plurality of ports (seen in Figure 7) respectively formed on opposite sides of the narrow continuous standing gaps are connected to a vacuum tank having a vacuum pump as a vacuum source thereof via a sub-vacuum line 42.

Sonneborn teaches whereby upper and lower faces of the cut portion of the tube are separated apart along the narrow gap and parallel air passage gaps by means of vacuum suction force action on the sub- vacuum line 42, and air inside the front tube film to be evacuated to the outside of the seal block through the cutting edge receiving groove is sucked through a main vacuum line 12 connecting the seal block and the vacuum tank as seen in Figure 3.

Sonneborn does not show narrow continuous standing gaps comprising pairs of upper and lower teeth opposing to each other, and a plurality of parallel air passage portions each between the respective pairs of teeth.

However, Mugnai ('224) shows narrow continuous standing gaps the narrow continuous standing gaps comprising pairs of upper and lower teeth 24 opposing to each other as seen in Figure 2A for the purpose of having a wrinkle free seal upon sealing and also to allow further escape of air as in column 4, lines 40-55.

The modified device of Sonneborn would then meet the limitation of a plurality of parallel air passage portions each between the respective pairs of teeth so as to cause outer surfaces to form passages communicating with the interior section of said tube.

Therefore, it would have been obvious to one having ordinary skill in the art to provide Sonneborn with intermittent teeth of '224 in order to achieve wrinkle free seals and allow further escape of air.

With respect to claim 2, Sonneborn inherently provides wherein the sub-vacuum line has a first opening and closing valve and the main-vacuum line has a second opening and closing valve, whereby both of the first and second opening and closing valves are opened substantially simultaneously when the pair of seal blocks clamp the tube film and the cutting edge cuts the tube film as on page 3, line 32.

Sonneborn inherently turns both vacuum lines 12,42 on and off in a timed manner.

With respect to claim 3, Sonneborn inherently shows timed valve operation for suction for the purpose of applying suction when desired according to the flow of product as in page 3, line 32.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sonneborn et al. (2,387,812) in view of Mugnai (4,541,224) in further view of Otsuka (5,755,076).

With respect to claim 4, the modified device of Sonneborn teaches the invention substantially as claimed including narrow continuous standing gaps and

Art Unit: 3721

the tunnel-shaped air passage gaps are embedded in the opposite edges of the skirt parts by cutting the opposite edges of the skirt parts.

Sonneborn does not show wherein a cooling water drain passage is formed in a pair of attached blocks.

However, Otsuka discloses cooling water drain passage formed in a block in order to cool portions of a heat seal operation as in column 2, line 7.

Therefore, it would have been obvious to one having ordinary skill in the art to provide water cool passages in a heat seal operation of Sonneborn in order to cool portions of the operation.

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mugnai (4,601,159) in view of Mugnai (4,541,224).

Mugnai teaches a sealing apparatus comprising a pair of upper 19,20 and lower 18 seal blocks located across a transfer track of a tube film accommodating materials 1 at equal spaces, for clamping the tube film 9 between the materials; a pair of seal bars provided inside skirt parts of the seal blocks; a cutting edge 21,22 attached to one of the seal bars; an edge receiving groove formed in the other of the seal bars, for receiving the cutting edge to cut the tube film 9; and narrow continuous standing gaps formed in part of a space between opposite edges of the respective skirt parts.

Mugnai teaches whereby air in a front tube film in a transfer direction of the film is evacuated to the outside of the seal block through the narrow continuous standing gaps and the edge receiving groove (seen in Figure 4), while a plurality of ports respectively formed on opposite sides of the narrow

Art Unit: 3721

continuous standing gaps are connected to a vacuum tank having a vacuum pump as a vacuum source thereof via a sub-vacuum line (17 upper vacuum in Figure 4).

Mugnai teaches whereby upper and lower faces of the cut portion of the tube are separated apart along the narrow gap and parallel air passage gaps by means of vacuum suction force action on the sub- vacuum line (upper 17), and air inside the front tube film to be evacuated to the outside of the seal block through the cutting edge receiving groove is sucked through a main vacuum line (17 lower vacuum in Figure 4) connecting the seal block and the vacuum tank as seen in Figure 3.

Mugnai ('159) does not show the narrow continuous standing gaps comprising pairs of upper and lower teeth opposing to each other, and a plurality of parallel air passage portions each between the respective pairs of teeth.

However, Mugnai ('224) shows narrow continuous standing gaps the narrow continuous standing gaps comprising pairs of upper and lower teeth 24 opposing to each other as seen in Figure 2A for the purpose of having a wrinkle free seal upon sealing and also to allow further escape of air as in column 4, lines 40-55.

The modified device of Mugnai would then meet the limitation of a plurality of parallel air passage portions each between the respective pairs of teeth so as to cause outer surfaces to form passages communicating with the interior section of said tube.

Art Unit: 3721

Therefore, it would have been obvious to one having ordinary skill in the art to provide the '159 reference with intermittent teeth of '224 in order to achieve wrinkle free seals and allow further escape of air.

With respect to claim 2, Mugnai (159) inherently provides wherein the sub-vacuum line has a first opening and closing valve and the main-vacuum line has a second opening and closing valve, whereby both of the first and second opening and closing valves are opened substantially simultaneously when the pair of seal blocks clamp the tube film and the cutting edge cuts the tube film.

Mugnai inherently turns both vacuum lines 17 on and off simultaneously.

With respect to claim 3, Mugnai (159) inherently shows timed valve operation for suction for the purpose of applying suction when desired according to the flow of product.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mugnai (4,601,159) in view of Mugnai (4,541,224) in further view of Otsuka (5,755,076).

With respect to claim 4, the modified device of Mugnai teaches the invention substantially as claimed including narrow continuous standing gaps and the tunnel-shaped air passage gaps are embedded in the opposite edges of the skirt parts by cutting the opposite edges of the skirt parts.

Mugnai does not show wherein a cooling water drain passage is formed in a pair of attached blocks.

However, Otsuka discloses cooling water drain passage formed in a block in order to cool portions of a heat seal operation as in column 2, line 7.

Art Unit: 3721

Therefore, it would have been obvious to one having ordinary skill in the art to provide water cool passages in a heat seal operation of Mugnai in order to cool portions of the operation.

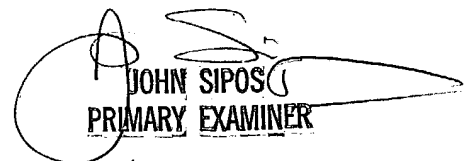
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis B Tran whose telephone number is 703-305-0611. The examiner can normally be reached on 8AM-6PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I Rada can be reached on 703-308-2187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOHN SIPOS
PRIMARY EXAMINER

167